

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Materials Laboratory Division
Washington, D.C. 20594



April 2, 2002

MATERIALS LABORATORY FACTUAL REPORT

Report No. 02-029

A. ACCIDENT

Place : Brunnell, Florida
Date : March 6, 2002
Vehicle : Cessna 172M
NTSB No. : MIA02FA066
Investigator : John W. Lovell, SERA

B. COMPONENTS EXAMINED

1. Separation area of a broken flap cable from the right wing, at the forward side of a bellcrank.
2. Separation area of a broken left wing aileron cable from the vicinity of the right door post.

C. DETAILS OF THE EXAMINATION

The wire rope portion of the flap cable was separated with almost all of the wires broken within a 0.5-inch axial length. There was minor unraveling of the strands adjacent to the separation, but no unraveling of the individual wires within strands. Detailed examination with a bench binocular microscope revealed extensive corrosion damage at the broken ends, with many of the individual wires corroded all of the way through. Dark deposits that appeared to be a mixture of oxidation debris and dried grease were noted within about 1 inch of the broken ends.

The wire rope portion of the aileron cable was separated with almost all of the wires broken within a 0.5-inch axial length. There was some unraveling of the strands as well as the individual wires within strands adjacent to the separation. Detailed examination with a bench binocular microscope revealed extensive corrosion damage at the broken ends, with many of the individual wires corroded all of the way through. Dark and rust-colored oxidation deposits were noted within about 1.5 inches of the broken ends.

James F. Wildey II
Supervisory Metallurgist